


THE UNIVERSITY
OF ILLINOIS
LIBRARY

595.7
D71n
v.16

NATURAL
HISTORY

Return this book on or before the
Latest Date stamped below. A
charge is made on all overdue
books.

U. of I. Library



Digitized by the Internet Archive
in 2010 with funding from
University of Illinois Urbana-Champaign

THE
NATURAL HISTORY
OF
BRITISH INSECTS.

LIBRARY
UNIVERSITY OF
CAMBRIDGE

BRITISH INSECTS

BRITISH INSECTS

NATURAL HISTORY

BRITISH INSECTS

595.7
D71n
v.16

LIBRARY
UNIVERSITY OF CALIFORNIA
BERKELEY

THE
NATURAL HISTORY
OF
BRITISH INSECTS;

EXPLAINING THEM

IN THEIR SEVERAL STATES,

WITH THE PERIODS OF THEIR TRANSFORMATIONS,
THEIR FOOD, ECONOMY, &c.

TOGETHER WITH THE

HISTORY OF SUCH MINUTE INSECTS

AS REQUIRE INVESTIGATION BY THE MICROSCOPE.

THE WHOLE ILLUSTRATED BY

C O L O U R E D F I G U R E S,

DESIGNED AND EXECUTED FROM LIVING SPECIMENS.

By E. DONOVAN, F. L. S. W. S., &c.

VOL. XVI.

LONDON:

PRINTED FOR THE AUTHOR,
And for F. C. and J. RIVINGTON, N° 62, ST. PAUL'S CHURCH YARD.

MDCCCXIII.

1813

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



THE
NATURAL HISTORY
OF
BRITISH INSECTS.

PLATE DXLI.

PAPILIO ARTAXERXES.

ARTAXERXES BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clavated at the tip: wings erect when at rest: fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, black, with a white dot in the middle of the anterior pair, and rufous lunules on the posterior ones: margin beneath white, with rufous dots.

VOL. XVI.

B

PAPILIO

PAPILIO ARTAXERXES. *Jon. M. S.—Picl. 6. tab. 44. fig. 2.*

HESPERIA ARTAXERXES: alis integerrimis nigris: anticis puncto medio albo, posticis rufis, subtus margine albo rufo punctato. *Fabr. Ent. Syst. T. 3. p. 1. 297. 129.*

LYCÆNA ARTAXERXES. *Fabr. Syst. Glossat.*



To the great astonishment of our English Collectors of Natural History in the vicinity of the metropolis, *Papilio Artaxerxes*, an insect heretofore esteemed of the highest possible rarity, has been lately found in no very inconsiderable plenty in Britain: for this interesting discovery we are indebted to the fortunate researches of our young and very worthy friend, W. E. Leach, Esq. who met with it common on Arthur's Seat near Edinburgh, and also on the Pentland Hills.

A discovery so interesting in the annals of Entomology deserves especial notice, because *Papilio Artaxerxes* was not merely esteemed rare in this country; on the continent it appears to be totally unknown: their Entomologists, till the time of Fabricius, have not mentioned it, nor had Fabricius himself ever seen an example of the species; he derived his information solely from a drawing by the hand of W. Jones, Esq. of Chelsea. The extreme accuracy of that delineation, it must be indeed allowed, would render it unnecessary for Fabricius to consult the insect from which it was portrayed, but the circumstance is mentioned in order to prove the rarity of the species as an European insect; and we cannot, it is presumed, afford a more decisive testimony of its interest in this respect than in stating Fabricius, its original describer, had never seen it.

Papilio Artaxerxes is by no means striking in appearance; it becomes important from the general estimation of its scarcity, and its claim to consideration in this view is indubitable. In the best of the English cabinets,

cabinets, with the exception of that of our sincere friend A. M'Leay, Esq. we have often lamented to observe a deception intended to supply the deficiency of this species; namely, a little painting of the insect, carefully consigned on a pin, to the most obscure corner of the drawer, amongst the British Papiliones, and which, from its specious aspect and ingenious similitude, has oftentimes, we suspect, been mistaken for the original: this is a general fault, arising undoubtedly from a very pardonable motive, and therefore, we apprehend, should not be reprehended in terms of unusual severity; yet we cannot think the custom wholly blameless.—We have alluded to the cabinet of Mr. M'Leay, and it will be therefore right to add in explanation, that his valuable and extensive collection contained a very fine specimen of *Papilio Artaxerxes*, that had been taken in Scotland previously to the discovery made by Mr. Leach, as before related.

Though we are not disposed to concede this little Butterfly any considerable portion of praise on account of its beauty, it is not altogether devoid of claim in this respect: the upper surface differs little from several analogous species, the females of several of “the blues,” as they are usually termed, at the same time that the aspect of the lower surface is entirely dissimilar from most others; and exhibits a very delicate, spotted, and prettily diversified appearance.

As these insects fly in the day-time there can be little doubt they may be sought for by the Collector with success on the Hilly spot called Arthur's Seat, near Edinburgh.

PROPERTY
OF THE
UNIVERSITY OF ILLINOIS

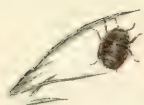
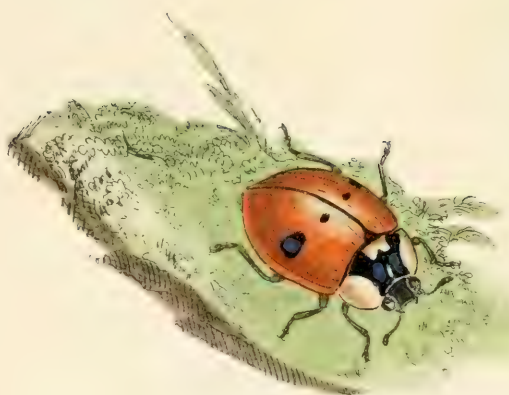


PLATE DXLII.

COCCINELLA 4-PUNCTATA.

FOUR-SPOT RED LADY-COW.

COLEOPTERA.

Antennæ clavated, club solid: anterior feelers femicordated: thorax and wing-cases margined: body hemispherical: abdomen beneath black.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wing-cases red with four black dots.

COCCINELLA 4-PUNCTATA: coleopteris flavis: punctis nigris quatuor. *Linn. Syst. Nat.* 2. 580. 590. *Fabr. Sp. Inf.* 1. p. 95. n. 16.—*Mant. Inf.* 1. p. 56. n. 28.

COCCINELLA QUADRIPUNCTATA. *Gmel. Linn. Syst. Nat.* 1647. 9.

COCCINELLA 4-PUNCTATA. *Marsh. Ent. Brit. T.* 1. p. 151. 7.

Professor Gmelin, in describing this species of *Coccinella*, refers for its name and character exclusively to the Fabrician *Species Insectorum*, and *Mantissa*, and hence it might be concluded that Fabricius was its first

first describer, which is not the fact, as it was previously noticed in the *Linnaean Systema Naturæ*; this oversight would be deemed of some importance in any work, but must be of still greater moment in a production professedly designed as an improved edition of the *Linnaean* publication: nor is the circumstance the less remarkable, since *Fabricius*, in the work quoted, affords a reference to the description previously given by *Linnaeus*.

Linnaeus, and also *Fabricius*, speak of it in general terms as an inhabitant of Europe: the species does not, however, appear, to be by any means frequent like many others of the same genus; for, with the exception of the works of *Villers*, and those abovementioned, it does not occur in any of the continental publications on Entomology. The author of *Entomologia Britannica*, *T. Marshall, Esq.* introduces this species for the first time to notice as a British insect: the specimen he describes is in the cabinet of *Dr. Shaw*. Another was taken in the town of *Plymouth* on the 18th of September, 1812, and is now in the possession of *W. E. Leach, Esq.*—The reader will pardon the minuteness of this detail when the rarity of the species is duly estimated.

In its general aspect this uncommon insect differs little from several others of the same tribe that are very abundant, and in which the wing-cases are red, with dots of black, and the thorax yellow with an irregular spot or splash of black in the middle: it is also like those of the middle size; the body beneath is black.

LIBRARY
OF THE
UNIVERSITY OF GLOUCESTER



PLATE DXLIII.

PHALÆNA MARGARITARIA.

LIGHT EMERALD MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angular, whitish green with a deeper band terminating in a white streak.

PHALÆNA MARGARITARIA. *Linn. Syst. Nat.* 5. 865. 231.

PHALÆNA MARGARITARIA: alis angulatis albidis: faturatiore striga alba terminata. *Fab. Ent. Syst.* 3. 131. 10.

GEOMETRA MARGARITARIA. *Hübner. Schmett Geom.* 3. 13.

Inhabits England and Germany in woods, and feeds principally on the Carpinus and Betula. The Moth appears in July and August. Its larva is described: the form is elongated, with two white dots on the last segments: tail bifid, and feet twelve in number.

Both sexes of this Moth are represented in the annexed plate; that with the antennæ larger or more deeply pectinated is the male.

PLATE

LIBRARY
OF THE
UNIVERSITY OF TORONTO



PLATE DXLIV.

LAMPYRIS FESTIVA.

FESTIVE LAMPYRIS.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ filiform: feelers four: wing-cases flexile: thorax flat, semi-orbicular, furrounding and concealing the head; segments of the abdomen terminating in folded papillæ: female usually apterous.

SPECIFIC CHARACTER.

LAMPYRIS FESTIVA. Sublinear, tawny orange: wing-cases with four raised lines, and posterior end black: disk of the thorax black.



An insect of more striking aspect, notwithstanding the inferiority of its size, can scarcely present itself. It appears to be extremely rare; indeed, we have not seen it in any other cabinet than that of the late Mr. Drury, now in our own possession; nor does it seem to be described by any author; we presume, therefore, it may be new to Entomologists in general.

In the Linnean System this insect must fall under some one of the several families into which modern Naturalists divide the Lampyrides of that author. Nevertheless, it should not be concealed that its characters are in certain respects remote from that of the true Lampyrides, and might, without any degree of impropriety, remove it entirely from that genus. The Entomologist need scarcely to be apprized of the families to which we allude; the genus *Lampyris*, as established by Linnaeus, it must be known, are divided into many sections, without which it would be impossible to retain the whole of the Lampyrides under one generic appellation. Even Gmelin, in editing the last edition of *Systema Naturæ*, seems sensible of this, as he forms no less than five distinct families for their reception. The whole of these, according to Fabricius, from whom they are adopted, are generically distinct, and are so constituted by him under the respective names *Lampyris*, *Omalyssus*, *Coffiphus*, *Pyrochroa*, and *Lycus*:—this is the order in which they stand in the latest works of that writer: some further alterations have been again made by writers subsequent to Fabricius, but generally, it may be observed, the example of Fabricius is almost implicitly followed in the division of the Linnean genus of Lampyrides, throughout the continent of Europe.

That the present insect is a genuine *Lampyris* of Linnaeus admits of no doubt; but in referring it to either of the sections, we should express ourselves with greater caution; for perhaps it ought rather to constitute a distinct genus than be assigned to either. It has the characters of *Pyrochroa*, and yet is allied to *Lycus*. As a species it seems to approach the *Pyrochroa*, called by Herbst *Aurora*, a native of Pomerania; but should it be the same, there must be a deficiency in the character assigned to it by that author, which creates uncertainty; neither the black spot in the disk of the thorax, nor those at the extremity of the wing-cases, being there described: we conclude for these reasons it cannot be the same.

The highly beautiful form of the pectinated antennæ in this elegant little insect contributes to render its general appearance attractive: the

the form is graceful, and the colours pleasing,—a fine tawny orange diversified with characteristic marks and spots of black. The antennæ are brown except the extreme joint, which is tawny: on the upper surface it will be observed, that in the central part of the black disk of the thorax is a raised acute line, and on the wing-cases four distinctly prominent striae, with the interstices deeply punctured. It is perceptible beneath that all the thighs at the base are tawny.

LIBRARY
OF THE
UNIVERSITY OF TORONTO



PLATE DXLV.

ELATER 4-PUSTULATUS.

FOUR-SPOT SPRINGER BEETLE.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ filiform, lodged in a groove under the head and thorax: under side of the thorax terminating in an elastic spine, placed in a cavity of the abdomen; by which means the body, when placed on the back, springs up and recovers its natural posture.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black wing-cases striated, with two testaceous dots.

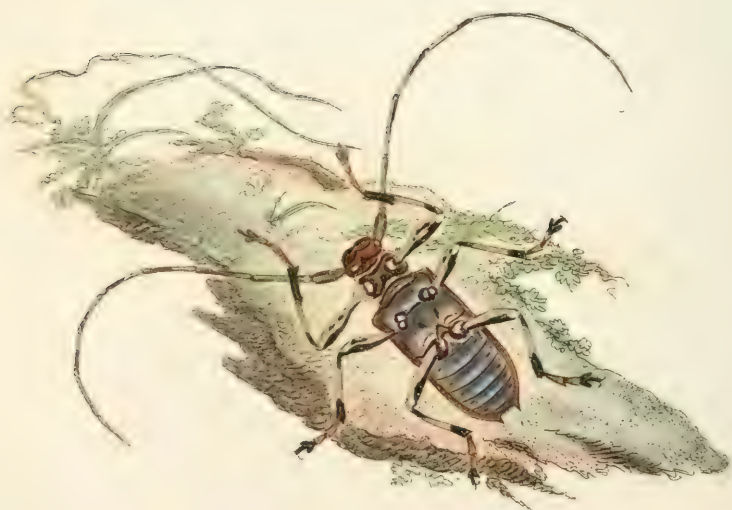
ELATER 4-PUSTULATUS: niger elytris striatis: punctis duobus testaceis. *Fabr. Ent. Syst. T. 1. p. 2. p. 235. sp. 89.—Paykull, &c.*



A diminutive insect, of very uncommon rarity, originally described by Fabricius from a specimen in the cabinet of Hybner: this was found in Saxony: it has been since described as a native of Sweden, and was lately discovered on the banks of the Tavy river.

The smallest figure denotes the natural size; the prevailing colour is black, the spots on the wing-cases with the legs testaceous.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



P L A T E D X L V I.

CERAMBYX LITERATUS.

LETTERED CERAMBYX.

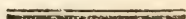
COLEOPTERA.

GENERIC CHARACTER.

Antennæ fetaceous: feelers four: thorax spinous or gibbous: wing-cafes linear.

SPECIFIC CHARACTER.

CERAMBYX LITERATUS. Cinereous: base of the wing-cafes with raised black dots: exterior margin brown, with two confluent spots, the posterior one branching into a letter-form band.



A new British species of the Cerambyx tribe, lately found in the vicinity of Manchester by John King, Esq. and kindly communicated to the Author. It is an insect of considerable size, in appearance remarkable for its elegance, and does not appear to have been described or figured in any other publication.

P L A T E

LIBRARY
OF THE
UNIVERSITY OF CALIFORNIA

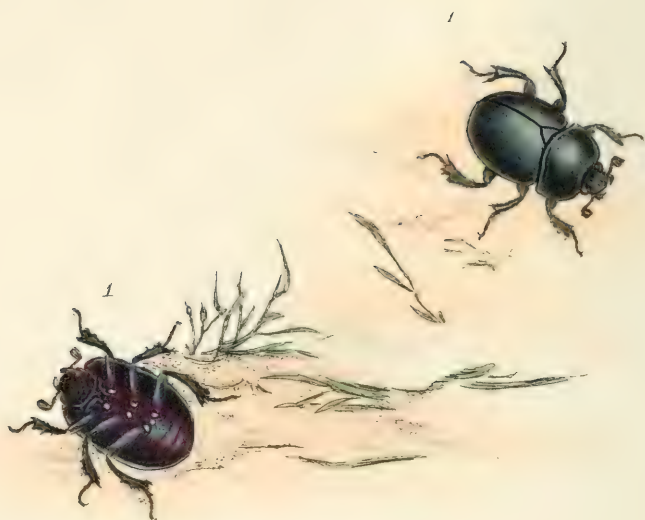


PLATE DXLVII.

FIG. I.

SCARABÆUS VERNALIS.

SPRING SCARABÆUS.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ clavated, the club fissile: shanks of the anterior legs generally dentated.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wing-veins glabrous and very smooth; shield of the head rhomboidal: crown slightly prominent.

SCARABÆUS VERNALIS: elytris glabris lævissimis, capitis clypeo rhombeo: vertice prominulo. *Linn. Syst. Nat.* 551. 43.—*Fn. Suec.* 389.—*Paykull Fn. Suec.* 1. 6. 6.—*Fabr. Syst. Ent.* 17. 61.—*Sp. Inf.* 1. 19. 75.—*Mant.* 1. 10. 82.—*Ent. Syst.* 1. a. 31. 98.—*Gmel. Linn. Syst. Nat.* 1549. 43.—*Geoffr.* 1. 77. 10.—*Fourc.* 1. 7. 10.—*Herbst. Arch.* 1.

7. 19.—*Panz. Faun. Germ.* 49. t. 2.—*Sulz. Hist. t. 1. f. 6.*—*Marsh. Ent. Brit. T. 1. p. 23. n. 37.*

GEOTRUPES VERNALIS. *Latr. Gen. Crust. et Inf. T. 2. p. 94.*



Allied to *Scarabæus stercorarius*, from which it differs chiefly in being smaller, and in having the wing-cases smooth instead of being furrowed. There is a variety of this species, in which the violescence is not very perceptible, and which has been occasionally mistaken, on that account, for a distinct species.

F I G . I I .

SCARABÆUS SYLVATICUS.

SYLVAN SCARABÆUS.

SPECIFIC CHARACTER

AND

SYNONYMS.

Glossy violaceous: thorax at each side impressed: wing-cases somewhat striated: feet pitchy.

SCARABÆUS SYLVATICUS: violaceus nitidus, thorace utrinque impresso, elytris substriatis, tarsis piceis. *Marsh. Ent.*

Ent. Brit. T. 1. p. 23. 38.—*Paykull. Fn. Suec.*
1. 55.—*Panz. Ent. Germ.* 8. 31.—*Scriba Ephem.*
3. 250.

GEOTRUPES SYLVATICUS. *Latr. Gen. Cruß. et Inf. Vol. 2.*
p. 93.



About the size of the former. Found in dung.



LIBRARY
OF THE
UNIVERSITY OF ALABAMA



PLATE DXLVIII.

FIG. I. I.

PHRYGANEA MONTANA.

MOUNTAIN SPRING-FLY.

NEUROPTERA.

GENERIC CHARACTER.

Mouth with a horny short curved mandible: feelers four: stemmata three: antennæ fetaceous, longer than the thorax: wings equal, incumbent, and the lower ones folded.

SPECIFIC CHARACTER

AND

SYNONYMS.

PHRYGANEA MONTANA. Anterior wings testaceous with daubs and confluent transverse marks of fuscous: posterior wings pale, border with alternate fuscous and pale spots.



Found abundant on the borders of rocky mountain streams in Wales, and similar situations in Ireland and other parts of Britain. The smallest figure, as in the following species, denotes the natural size.

FIG.

F I G . I I . I I .

P H R Y G A N E A M A C U L A T A .

S P O T T E D S P R I N G - F L Y .

SPECIFIC CHARACTER

A N D

S Y N O N Y M S .

P H R Y G A N E A M A C U L A T A : Anterior wings pale testaceous towards the base, and faintly reticulated with dusky : dorsal edge with four distinct dark spots, and a series of dark dots next the border at the apex.

A new species, found in tolerable plenty on the rivers of Cumberland and Devonshire.

LIBRARY
OF THE
UNIVERSITY OF MICHIGAN



P L A T E D X L I X .

MUSCA ATHERIX.

ATHERIXINE MUSCA.

DIPTERA.

GENERIC CHARACTER.

Mouth with a soft exerted fleshy proboscis, and two unequal lips: upper beset with bristles: feelers short and two in number, or sometimes none: antennæ usually short.

* Antennæ moniliform, with a terminal bristle.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black: body with a grey spot on each side of all the segments: in the middle of the costal margin of the wings a dusky spot surrounded by a crescent of hyaline dots, and a dusky spot at the base.

ATHERIX MACULATA (mas) *Meig. Clafs. und. Besch. t. 1. p. 274.*



This insect, which is clearly of the Musca tribe in the system of Linnæus, constitutes a new genus in the work of Meigel, under the name of Atherix.—The last-mentioned genus has been recently adopted by Latreille in his subdivisions of the Muscæ.

There

There is an appearance of novelty and simple elegance in this little insect that strongly demands attention, though the colours are merely black and dusky, with a diversity of the grey,—such in fact as in the more emphatic language of practical collectors might be called the widow's weeds, or half-mourning. The species is very rare.

UNIVERSITY OF CALIFORNIA
LIBRARY
DIVERSITY OF CALIFORNIA



PLATE DL.

OESTRUS OVIS.

SHEEP BOT-FLY, GAD-FLY, or BREEZE-FLY.

DIPTERA.

GENERIC CHARACTER.

Mouth with a simple aperture, and not exerted: feelers two, each consisting of two articulations, with the tip orbicular, and seated on each side in a depression of the mouth: antennæ of three joints, the last subglobular, and furnished at the anterior part with a bristle, placed in two hollows of the front.

SPECIFIC CHARACTER

AND

SYNONYMS.

OESTRUS OVIS. Wings transparent, with spots at the base and dotted nerves: abdomen filky white, varied with black dots and spots.

Reaum. Inf. t. 36. fig. 22.—Larva. 8, 9.

OESTRIS OVIS. Wings transparent, with small spots at the base: abdomen chequered with black and white. *Clarke, Linn. Transf. V. 3. p. 313. tab. 23. fig. 14—17.*

This is one of those destructive creatures which infest quadrupeds, and are known under the general appellation of the Bot-flies. The particular species now before us is that peculiar to the Sheep tribe.

Every husbandman is acquainted with the direful effects produced by the ravages of those intruders in the vital economy of that useful race of creatures, though few are correctly acquainted with their history. The Bots, indeed, have never been sufficiently or properly described till within the last few years, when the subject was investigated by Bracy Clarke, Esq. and it must be added, with a degree of accuracy highly creditable to himself and satisfactory to the public. The result of his remarks appeared first in a Memoir published in the third Volume of the Linnaean Transactions, and subsequently in other publications. These observations may be truly said to form the basis of our present knowledge of the Oestrus tribe, than which no race of insects whatever, can be more strictly deserving the attention of the Entomologist or the observation of the Agriculturist.

In describing the individual species of Oestrus at present under consideration Mr. Clarke observes, that about the middle of June he procured some full-grown larvæ from the inside of the cavity of the bone which supports the horns of the Sheep. They were nearly as big as those of the large Horse-bot, of a delicate white colour, flat on the under side and convex on the upper, having no spines at the divisions of the segments, though provided with two curved hooks at the small end: the other extremity is truncated, with a small prominent ring or margin, which seems to serve the same purpose, though in an inferior degree, as the lips of the Oestrus equi and hæmorrhoidalis, by occasionally closing over and cleaning the horny plate of respiration.

The larvæ are perfectly white and transparent when young, except the horny plates, which are black: as they increase in size the segments of the upper side become marked with two brown transverse lines, and some spots are observable at the sides. They move with considerable quickness, holding with the tentacula as a fixed point, and drawing up the body towards them. The under-side of the body is marked with a broad line of dots, which, on examination with glasses, appear to be rough points, serving perhaps the double purpose of assisting their passage over the smooth and lubricated faces of these
membranes,

membranes, and of exciting also a degree of inflammation in them where they rest, so as to cause a secretion of lymphor pus for their food.

Mr. Clarke observes, that he has mostly found these animals in the horns and frontal sinuses, though he has remarked that the membranes lining these cavities were hardly at all inflamed, while those of the maxillary sinuses were highly so; and hence he was led to suspect that they inhabit the maxillary sinuses, and crawl, on the death of the animal, into those situations in the horns and frontal sinuses. The breeds, he presumes, are not confined to any particular season, as the young and full-grown larvæ are found together at the same time.

The larvæ, when full grown, fall through the nostrils to the ground, and change to the pupa state, lying on the earth or adhering by the side to a blade of grass: in this state it remains about two months, when the fly appears.—The manner in which this species deposits its eggs is difficult to observe, owing to the obscure colour and rapid motions of the fly, and the extreme agitation of the sheep; but from the mode of defence the sheep takes to avoid it, and its manners afterwards, there can be little doubt that the eggs are deposited in the inner margin of the nostril.

The moment the fly touches the nostril of the sheep, the latter shake their heads violently, and beat the ground with their feet, holding their noses at the same time close to the earth, and running away, earnestly looking on every side to see if the fly pursues: they also may sometimes be seen smelling to the grass as they go, lest one should be lying in wait for them; which if they observe, they gallop back, or take some other direction, as they cannot, like horses, take refuge in the water. To defend themselves against its attacks they have recourse to a rut, or dry dusty road, or gravel-pits, where they crowd together during the heat of the day, with their noses held close to the ground, which renders it difficult for the fly, who attacks on the wing, to get at the nostril.

Perhaps, says Mr. Clarke, (in concluding his general observations,) the removal of the sheep to a distant pasture during the months of June and July, whilst the greater number of the Bots are yet on the ground in the state of pupa, and not bringing them again on such ground till the setting in of winter, would be the means of destroying them most effectually; and this process, repeated for two or three years successively, in places where the Oestri are particularly troublesome, might prove eventually useful to the farmer.

A highly-magnified figure of this species in the winged state is shewn in the annexed Plate, from which it will appear an insect of singular character, and no very inconsiderable beauty. The small figure denotes the natural size.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



P L A T E D L I.

PHRYGANEÆ INTERRUPTÆ.

BROKEN-BAR PHRYGANEÆ.

NEUROPTERA.

GENERIC CHARACTER.

Mouth with a horny short curved mandible: feelers four: stemmata three: antennæ fetaceous, longer than the thorax: wings equal, incumbent, lower ones folded.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings black, with an interrupted white band of dots near the middle, and white dot on the anterior margin nearer the tip.

PHRYGANÆÆ INTERRUPTÆ: nigra alis nigris: fasciis quatuor niveis; anticis interruptis, posteriori marginali punctata.
Fabr. Ent. Syst. T. 2. p. 79. 25.

Common among willows on the banks of rivers and rivulets in various parts of Britain. Frequent about Plymouth, and on the banks of the Dee. Fabricius describes it as a native of England.

P L A T E



PLATE DLII.

STAPHYLINUS HIRTUS.

HAIRY STAPHYLINUS, or ROVE-BEETLE.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ moniliform: feelers four: wing-cases half as long as the body: wings folded up under the wing-cases: tail armed with a pair of forceps, and furnished with two exsertile vesicles.

SPECIFIC CHARACTER.

AND

SYNONYMS.

Hairy, black: thorax and posterior part of the abdomen yellow.

STAPHYLINUS HIRTUS: hirsutus niger, thorace abdomineque postice flavis. *Linn. Syst. Nat.* 683. 1.—*Fn. Succ.* 839.—*Gmel. Linn. Syst.* 2025. 217. 1.
Fabr. sp. inf. 1. p. 334. n. 1.—*Mant. Inf.* 1. p. 219. n. 2. *Ent. Syst.* 1. b. 519. 2.

Staphylinus niger villosus, &c.—*Le Staphylin bourdon. Geoffr. Inf. par.* 1. p. 363. n. 7.

Staphylinus bombylius. Degeer 4. 20. 5.

STAPHYLINUS HIRTUS. *Marsh. Ent. Brit. T.* 1. p. 496. 1.

The largest and most interesting species of the *Staphylinus* genus found in this country, and also one of the most uncommon.

In

In Entomologia Britannica it stands recorded as a British species, and though esteemed rare, it usually occurs in the best cabinets. It is said to inhabit sandy places, and is also found among moss concealed or lying under stones. Mr. Comyns has met with it in Devonshire. We once saw it on the wing in a thicket in Coombe Wood, Surrey.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



PLATE DLIII.

FIG. I. I.

CERAMBYX SANGUINEUS.

SANGUINEOUS CERAMBYX.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ fetaceous: eyes lunate, and embracing the base of the antennæ: feelers four: thorax spinous: wing cases linear: body oblong.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black: thorax somewhat tuberculated, and with the wing-cases sanguineous: antennæ moderate.

CERAMBYX SANGUINEUS: niger, thoracis dorso elytrisque sanguineis, antennis mediocribus. *Marsh. Ent. Brit. T. 1. 336. n. 19.*

CERAMBYX SANGUINEUS. *Linn. Syst. Nat. 636. 80.—Fn. Succ. 673.—Gmel. 1855. 80.*

CALLIDIUM SANGUINEUM: thorace subtuberculato elytrisque sanguineis, antennis mediocribus. *Fabr. Syst. Ent.* 190. 2.—*Sp. Inf.* 1. 238. 16.—*Mant. I.* 153. 25.
Ent. Syst. 1. b. 326. 35.

Le Lepture veloutée couleur de feu. *Geoff.* 1. 220. 21.



This very beautiful species was introduced into Entomologia Britannica on the authority of a specimen discovered by ourselves about ten years ago in the island of Anglesea, and from that period till very lately, when another example was taken in Devonshire, this remained the only British specimen known. It may hence be concluded that *Cerambyx sanguineus* is one of the most uncommon as well as elegant species of this genus found in Britain.

F I G. I I. I I.

CERAMBYX MINUTUS.

MINUTE CERAMBYX.

SPECIFIC CHARACTER

AND

SYNONYMS.

Rufous brown: antennæ as long as the body.

CERAMBYX MINUTUS: rufo-fuscous, antennis longitudine corporis.
Marsh Ent. Brit. T. 1. p. 337. 21.

SAPERDA

- SAPERDA MINUTA. *Fabr. Sp. Inf.* 1. 235. 2.
 Mant. 1. 150. 39.
CALLIDIUM PYGMÆUM. *Fabr. Ent. Syst.* 1. b. 323. 24.
-

A diminutive species of very uncommon scarcity: its appearance when magnified is particularly interesting.

1884
of the
University of Chicago

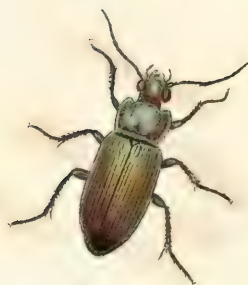


PLATE DLIV.

CARABUS CUPREUS.

COPPERY CARABUS.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ filiform: feelers fix, the exterior joint obtuse and truncated: thorax obcordated, truncated behind and margined: wing-cafes margined: abdomen ovate.

SPECIFIC CHARACTER

AND

SYNONYMS.

Brassy: antennæ red at the base.

CARABUS CUPREUS: æneus, antennis basi rubris. *Linn. Fn. Suec.* 801.
Fab. Sp. Inf. 1. p. 308. n. 50.—*Mant. Inf.* 1. 201. 68.—*Ent. Syst.* 1. a. 153. 126.
Paykull Monogr. 71.
Fn. Fred. 21. 206.
Panz. Ent. Germ. 56. 60.
Illiger. Kugel. Kaf. Preus. 166. 31.
Marsh. Ent. Brit. T. 1. p. 439. 18.
 Le Bupreste perroquet. *Geoffr.* 1. 161. 40.

The

The head, thorax, and wing-cases are brassy brown, the under surface black with a violet gloss. This kind is distinct from *Carabus vulgaris*, with which it might be confounded, especially in having the first joint of the antennæ red, the whole of these organs being black in *Carabus vulgaris*.

LIBRARY
OF THE
UNIVERSITY OF CALIFORNIA



PLATE DLV.

PHALÆNA PHÆORRHŒA.

BROWN TAIL MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

White: rays of the antennæ ferruginous: abdomen bearded and fuscous at the end.

PHALÆNA CHRYSORRHŒA. *var. Linn.?*

BROWN-TAIL MOTH. *Curtis Hist. Brown-tail, A. D. 1782.*

PHALÆNA PHÆORRHŒA. *Marsh. Linn. Transf. V. 1. p. 68.*



In the description of the 10th plate of this work we had occasion to allude, in general terms, to an oversight committed by Linnaeus in confounding the Yellow and Brown tail Moths under the same name

as a single species: the subject represented in that plate is the Yellow-tail, and the present seems requisite to complete the history of those two apparently ambiguous insects.

There is a dissimilarity, and that so considerable, between those two insects, though at the first view they may appear analogous, that, after due comparison, it must excite surprize to learn they could have been esteemed the same by any competent Naturalist; yet they certainly were, and not by Linnæus only; nor do they seem, even at this moment, to be very accurately defined as distinct kinds by the generality of continental writers, some considering them as varieties, and others as the two sexes of an individual species. Klemann is an exception among those writers; he admits them to be distinct on the authority of Roefel, by whom both kinds were reared from the larvæ.

Besides those two moths, there is another more closely allied to the Yellow-tail than the Brown-tail, which has excited some misunderstanding; this is the insect called by English collectors the "Spotted Yellow-tail," as it differs from the former in having a large brown shade along the costal margin beneath, and on the upper surface one or more obscure dots. Fabricius, whose opinion is countenanced by the authority of Villars and Schaeffer, describes it as a distinct species, under the name of *Auriflua*, and this opinion is repeated in the work of Gmelin: our English collectors regard it, and not without probability, as a sexual difference of the common Yellow-tail: we are persuaded it is no other than the male of that species;—the male of the Brown-tail Moth, we may further add, exhibits a similar appearance beneath.

The history of the Brown-tail Moth is amply related in a little tract published about thirty years ago by the late Mr. W. Curtis, author of the *Flora Londinensis*. The occasion upon which that tract was written is slightly mentioned in our description of the "Yellow-tail," and may now with propriety be repeated at greater length. The period of time elapsed since the appearance of Mr. Curtis's publication is not considerable; yet, from the various vicissitudes to which such a memorial of local events is necessarily exposed, this interesting pamphlet

pamphlet is now become scarce: we fortunately possess it, and feeling persuaded the information it conveys must prove acceptable to the reader, shall not neglect to introduce the most material passages for their perusal.

It will be within the recollection of many, that in the year 1782 the inhabitants of London and its vicinity were thrown into the utmost consternation by the appearance of a phenomenon far from usual in the northern regions of the earth; a host of insects, in numbers like the locusts of the deserts, were observed at once to pervade the whole face of vegetation and despoil the herbage in many places for miles of every trace of verdure:—these were no other than the larvæ of an insignificant Moth, the subject of our present Plate.

The ravages committed by this insect were assuredly less considerable than the vulgar were inclined to believe: true to their natural instinct, some particular vegetables were preferred to others, and these they devoured with impunity, while others were only partially attacked, as though eaten with reluctance in the general scarcity of their natural food; and again, others being still less palatable, entirely escaped their devastation. The aspect of vegetation was nevertheless such as might justly create alarm: plants, hedges, nay, whole plantations of fruit-trees, as well as trees of the forest, shared in the general havoc, presenting their leafless branches in the midst of summer, as though stricken and destroyed by the blasts of winter. An appearance so extraordinary was calculated to create terror: it was naturally interpreted as a visitation from heaven ordained to destroy all the sources of vegetable life, to deprive men and cattle of their most essential food, and finally leave them a prey to famine.—Such were the vulgar fears; but thanks to Providence, the destroying powers of these creatures were restricted by their instincts; their attacks were principally directed against the oak, the elm, the hawthorn, and fruit-trees: the fodder for the cattle and the harvest for mankind remained untouched. The appearance of such a host of little depredators seems, however, to have afforded a seasonable admonition, evincing to an unthinking

VOL. XVI. G multitude

multitude how easily the comforts, nay, even the very existence of man may be assailed by a creature so insignificant, had not the limits of its ravages been prescribed by Him “who wills and is obeyed;”—its intrusions certainly created alarm, but did little serious injury.

This is no exaggerated picture of the public mind on the occasion to which we refer; its alarm was so powerful, and prevailed to such an extent, that prayers were publicly offered up in the churches to avert the calamity it was supposed they were intended to produce. The webs containing the larvæ were collected in many places about the metropolis by order of the parish officers, who allowed a certain price to the poor for gathering them, and superintended the burning of them in large heaps with coal and faggots, a circumstance within our own memory. At this precise period the tract by Mr. Curtis, as above related, appeared. In this memoir the history, manners, and propensities of this little creature were explained, and the information it afforded must have undoubtedly contributed in an essential manner to calm the terror before excited. Neither can we regard its publication as being devoid of utility in another material respect. It must surely have inclined the more reflecting part of the community, at least, to view the pursuits of the Entomologist, then confessedly in a state of infancy in this country, with higher esteem than it had been previously accustomed to consider them.

“The attention of the public (says Mr. Curtis) has of late been strongly excited by the unusual appearance of infinite numbers of large white webs, containing Caterpillars, conspicuous on almost every hedge, tree, and shrub in the vicinity of the metropolis; respecting which advertisements, paragraphs, letters, &c. almost without number, have appeared in the several newspapers, most of which, though written with a good intention, have tended greatly to alarm the minds of the people, especially the weak and the timid. Some of those writers have gone so far as to assert, that they were an unusual presage of the plague; others, that their numbers were great enough to render the air pestilential, and that they would mangle and destroy every kind of vegetable,

table, and starve the cattle in the fields. From these alarming misrepresentations, almost every one ignorant of their history has been under dismal apprehensions concerning them; and even prayers have been offered up in some churches to deliver us from the apprehended approaching calamity."—"Some idea may be formed (says the same author in a note on the above passage) of their numbers from the following circumstances. In many parishes about London subscriptions have been opened, and the poor employed to cut off and collect the webs at one shilling per bushel, which had been burned under the inspection of the churchwardens, overseers, or beadles of the parish; at the first onset of this business, fourscore bushels, as I was most credibly informed, were collected in one day in the parish of Clapham."

One object in writing this tract was to shew, that the insect was not new in this country, the species being found every year, and in some abundance, though not in plenty sufficient to excite the public attention. It was then known, as the author observes, by those who collected insects as the caterpillar of the Brown-tail Moth. Nor is it peculiar to this country, being found in many parts of Europe. Albin, who published in 1720, says, the caterpillars lay themselves up in webs all the winter, and as soon as the buds open they come forth and devour them in such a manner that whole trees, and sometimes hedges, for a great way together, are absolutely bare. Geoffroy describes it as the most common of all insects about Paris, where it is found on most of the trees, which it often strips entirely of their foliage in the spring. Our great naturalist Ray describes it likewise.

With respect to the caterpillars of the Brown-tail Moth in the year 1782, and also in the year preceding, Mr. Curtis observes, their numbers were uncommonly great and unusually extensive, though he does not pretend to state the precise track in which they are found, having had no opportunity of observing it, remarking only in this particular, that when insects are multiplied in this extraor-

ordinary manner it is seldom that they extend through a whole country. "On the Kingston road I traced them (says this author) as far as Putney Common, on the farther part of which, on the trees about Coombe Wood and Richmond Park, a web was not to be seen. I remarked, that they were extremely numerous at the distance of about eight miles on the Uxbridge road. On the great western road they terminated about the Star and Garter leading to Kew; from whence to Alton in Hampshire not one was visible; and I have received undoubted information from other quarters, that the destruction they occasioned is by no means general."

Our remarks on the partiality shewn by these insects for some vegetables in preference to others will be easily perceived from the following statement: during the season mentioned (and in this they are invariably constant) they occurred on the *hawthorn* most plentifully, *oak* the same, *elm* very plentifully, *most fruit-trees* the same, *blackthorn* plentifully, *rose-trees* the same, and *bramble* the same: on the willow and poplar scarce, and none were noticed on the elder, the walnut, ash, fir, or herbaceous plants. Thus it appears, that the principal injuries sustained are in the orchard, the caterpillars destroying the blossoms as well as the leaves, and thereby the fruit in embryo; the loss of the leaves merely in many other trees, should it happen in the spring, being of small importance, as these are restored before the end of summer.

These caterpillars have happily many enemies; they are delectable food for most birds, who eagerly devour them; they are also victims to the Ichneumon fly, which destroys them by myriads, and it is supposed the absence of the latter, from some unknown cause, might have contributed, for one or two seasons, to their immense increase. The young caterpillars are hatched early in autumn. As soon as they quit the egg they begin spinning the web, and having formed a small one, they proceed to feed on the foliage by eating, like most other larvæ, the upper surface and fleshy part of the leaf. In these webs, which are progressively increased in size as neces-

sity requires, they live in societies till they attain their last skin, when each spins a separate web or cocoon for itself: in this it passes to the pupa form about the beginning of May, and after remaining a short time the Moth is produced *. There is more than one brood in a year, the species being found in a winged in July and August.

* It remains in the chrysalis about three weeks. *Curtis.*

LIBRARY
OF THE
UNIVERSITY OF TORONTO



PLATE DLVI.

PHALÆNA VERTICALIS.

MOTHER-OF-PEARL MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

* *Section PYRALIS.*

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings glabrous pale and somewhat fasciated: beneath waved with fuscous.

PHALÆNA VERTICALIS: alis glabris pallidis subfasciatis, subtus fusco undatis. *Linn. Fn. Succ.* 1353.—*Gmel.* 2522. 335.

Phalæna Verticalis. *Fabr. Sp. Inf.* 2. p. 272. n. 180.—*Mant. Inf.* 2. p. 219. n. 285.

Geoffr. inf. Par. 2. p. 166. n. 112.

Abundant in the month of July, when it appears in the winged state: the larva, which is of a delicate green colour, feeds on the common nettle: the pupa is distinguished by having each of the three last segments armed or furnished with a tooth-like process.

PLATE

LIBRARY
OF THE
UNIVERSITY OF ALABAMA



P L A T E · DLVII.

LEPTURA SANGUINOLENTA.

SANGUINEOUS LEPTURA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ setaceous: feelers four, filiform: wing-cases tapering towards the tip: thorax slender and round.

* Jaw with a single tooth, lip membranaceous and bifid. *Fabr.*

SPECIFIC CHARACTER

AND

SYNONYMS.

Black: wing-cases sanguineous.

LEPTURA SANGUINOLENTA: nigra elytris sanguineis. *Linn. Syst. Nat.* 2. 638. 4.—*Fn. Suec.* 679.—*Fabr. Ent. Syst. T.* 1. p. 2. 341. 10.
Schaeff. Icon. tab. 39. *fig.* 9.

Rarely met with in Britain. Linnaeus describes it as a native of Sweden, Schaeffer includes it among the insects found in the environs of Ratisbon, and we have seen it from Portugal. Fabricius speaks

in general terms of the species as an inhabitant of Europe. It is found on flowers about the end of June or in the Month of July.

There is a variety of this insect, having the wing-cafes margined with black; in the male, the wing-cafes are sometimes tinged with testaceous, and at the tip with black.

LIBRARY
OF THE
UNIVERSITY OF ALABAMA



PLATE DLVIII.

NECYDALIS CÆRULEA.

BLUE NECYDALIS.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ fetaceous or filiform: feelers four, filiform: wing-cases less than the wings, and either narrower or shorter than the abdomen: tail simple.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wing-cases subulate: body blue: posterior thighs clavated and arched.

NECYDALIS CÆRULEA: elytris subulatis cærulea femoribus posticis clavatis arcuatis. *Fabr. Ent. Syst. T. 1. p. 2. 354. 19.*

NECYDALIS CÆRULEA. *Linn. Syst. Nat. 2. 642. 4.*

NECYDALIS CÆRULEA: cærulea, femoribus posticis clavatis arcuatis. *Marsh. Ent. Brit. T. 1. 359. 4.*

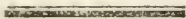
Donov. Tour South Wales and Monmouthshire. T. 1. Glamorg.

Telephorus cæruleus. Degeer. 4. 76. 8.

Cantharis nobilis. Scop.

La Cantharide verte à grosses cuisses. Geoff. 1. 342. 3.

Ædemera cærulea. Oliv. 3. p. 50. 13. 16. f. 2. f. 16. a. b.



One of the most singular as well as beautiful species of the insect tribe found in this country: it occurs on flowers of various kinds in the middle of summer: most frequent on the golden cup, on the bramble and the dandelion, and perhaps we may say generally, on umbelliferous flowers. In England it is rather a local insect; on the continent, and especially towards the South, it is observed to be more abundant than in northern counties.

The most material difference in the general appearance of the two sexes of this species consists in the structure of the posterior legs; these in the female are simple, but in the male are considerably arched, while the thigh itself is so remarkably large, in proportion to the rest of the legs and body, as to render its aspect particularly striking: the thigh is curved, and very globose.

This difference in the structure of the thighs did not escape the observation of Geoffroy, and after him of Fabricius; the latter of whom considers the one with simple legs merely as a variety of the other, "*Variat pedibus simplicibus.*" Among the number of those who dissent from this idea we should, however, name that respectable Naturalist, John Reinhold Forster: he considered it as a new species, and describes it as such, under the appellation of *Necydalis Ceramboides*: "*Elytris subulatis, viridi-ænea pedibus simplicibus,*" in his tract of *One Hundred new Species of Insects*. Fabricius, who wrote after the time of Forster, refers to this among his synonyms, and seems therefore convinced it can be no other than a variety of *Cærulea*.

In Entomologia Britannica we find the opinion of Forster preferred to that of Fabricius, the supposed species being included under the name of Ceramboides, as in " Novæ Species Insectorum." Mr. Marshall, nevertheless, with that degree of caution which so eminently distinguishes his valuable work, expresses a doubt whether it ought to be considered as a distinct species or a sexual difference, "*An species distincta? An sexus differentia?*"

The smaller figures denote the natural size; the variation that prevails in colour from a blue to bright brassy green is shewn in the larger figures.

LIBRARY
OF THE
UNIVERSITY OF ALABAMA



PLATE DLIX.

MUSCA EPHIPPIMUM.

RUFIOUS-THORAX MUSCA.

DIPTERA.

GENERIC CHARACTER.

Mouth with a short exerted fleshy proboscis, and two equal lips: sucker furnished with bristles: feelers two, very short, or sometimes none: antennæ generally short.

* *Stratiomys. Fabr.*

SPECIFIC CHARACTER

AND

SYNONYMS.

Scutel furnished with two teeth: thorax rufous, spinous each side.

MUSCA EPHIPPIMUM: scutello bidentato, thorace rufo utrinque spinoso.
Fabr. Sp. Inf. 2. p. 417. n. 2.—Mant. Inf. 2.
330. n. 4.—Ent. Syst. T. 4. 264. n. 6.
Geoffr. Inf. 2. 480. 3.

MUSCA INDA. *Schranck. Inf. Austral. p. 438. n. 891.*

Taken in Coombe Wood, on the 4th of June, 1812, by Geo. Milne, Esq. F. L. S.

Musca ephippium is considered as a scarce insect in this country. It is known to have been taken occasionally by the old collectors about
 thirty

thirty years go, or rather more, in the woods about Highgate, which, in consequence of the recent improvements in that vicinity of the metropolis, are now demolished. It has occurred likewise in the woods of Kent. Our good friend, John Swainson, Esq. of Liverpool, met with three specimens at the same time sticking against the trunks of trees; this happened about twenty years ago, and was then esteemed a rare circumstance.

There is no other species of *Musca* that can be confounded with this; the characteristic rufous colour of the thorax forms such a striking contrast with the black of the body and the duskiness of the wings as to render this impossible: neither do we recollect, among the innumerable tribes of exotic species, any insect so strikingly singular, with the exception of some of the *Mutilla* genus, the very different structure of which can never allow them to be mistaken for *Musca*, even by the most casual observer. When closely examined, the thorax is perceptibly covered with short hairs; the body is quite smooth and black, the legs black, and poisers pale yellowish. The whole surface beneath is black.



2



PLATE DLX.

FIG. I.

NOTONECTA MACULATA.

SPOTTED BOAT-FLY.

HEMIPTERA.

Snout inflected: antennæ shorter than the thorax: wings four folded cross-wise, coriaceous on the upper half: posterior legs hairy, and formed for swimming.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wing-cafes fuscous, springled with ferruginous specks, the tip bifid.

NOTONECTA MACULATA: elytris fuscis ferrugineo irroratis apice bifidis. *Fabr. Ent. Syst. T. 4. p. 58. 3.*

Found in the waters about London, and in Devonshire: Fabricius describes it as an inhabitant of waters about Paris on the authority of Bosc.

F I G. I I .

NOTONECTA FURCATA.

FURCATE BOAT-FLY.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings fuscous with two testaceous spots at the base, the tip bifid.

NOTONECTA FURCATA: elytris fuscis: maculis duabus baseos testaceis, apice bifidis. *Fabr. Ent. Syst. T. 4. p. 58. 2.*



Less abundant than *Notonecta glauca*, to which it is nearly allied in size and appearance: the two oblong testaceous spots at the base of the wing cases sufficiently distinguish it from *N. glauca*. Both have the same haunts and manners of life. *N. furcata* has been found, according to Bosc, in the waters about Paris.

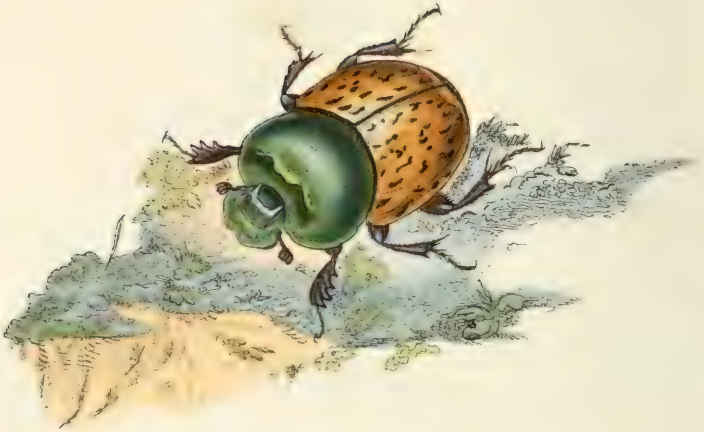


PLATE DLXI.

SCARABÆUS VACCA.

HORNED, or COW-HEADED BEETLE.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ clavated, the club lamellate: feelers four: anterior flanks generally toothed.

SPECIFIC CHARACTER

AND

SYNONYMS.

ExcuteUate: thorax unarmed, acuminate: head armed with two erect spines.

SCARABÆUS VACCA: excutellatus thorace mutico acuminato, occipite spina erecta gemina. *Linn. Syst. Nat.* 2. 547. 23.

SCARABÆUS VACCA. *Fabr. Syst. Ent.* 26. 101. *Sp. Inf.* 1. 28. 126.—*Mant.* 1. 15. 143.—*Ent. Syst.* 1. a. 55. 179.

SCARABÆUS VACCA. *Gmel. Syst.* 1543. 25.
Marsh. Ent. Brit. T. 1. p. 34. 61.

Copris. *Geoff.* 1. 90. 5.

Copris conspurcatus. *Fourc.* 14. 5.

Onthophagus Vacca. *Latr. Gen. Cruft. et Inf. T.* 2. p. 87.

An insect of very remarkable and interesting figure, especially in the front view, the horns on the head resembling those of the cow. The male only is furnished with horns, the head of the female, as in many other species of this tribe, having only a slight protuberance instead. It is scarce in England. Has been usually taken in cow-dung.

The smaller figure represents the natural size.

UNIVERSITY OF MICHIGAN
LIBRARY



PLATE DLXII.

PHALÆNA SIGMA.

DOUBLE SQUARE SPOT.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest : fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings purplish brown with pale bands, and a double square black spot in the middle.

NOCTUA SIGMA : cristata, alis deflexis, superioribus mofchatinis Σ fusco nigro inscriptis. *Klem.* 2. p. 10. 25.

NOCTUA SIGNUM : cristata alis maculis tribus fuscis : costa baseos cinerascens, thorace fusco antice brunneo. *Fabr. Mant. Inf. T. 2. p. 154. n. 141.*

NOCTUA SIGMA. *Knoch Beitr.* 3. p. 94. 10.

NOCTUA ATROSIGNATA. *Wiener Verz.* p. 78.

Found in the larva state in May and June, appears on the wing in August. The species is well distinguished by the character-like fuscous mark in the middle of the anterior wings, a kind of double mark, formed by the junction of two subquadrangular spots that unite together at their most contiguous angle, being a little oblique from each other. Some compare this mark to the Hebrew character Σ , but it does not well agree with this; the simple appellation of double square spot is much more applicable.

PLATE



22



PLATE DLXIII.
STAPHYLINUS HYBRIDUS.

HYBRID ROVE BEETLE.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ moniliform: feelers four: wing-cases half as long as the body: wings folded up under the wing-cases: tail simple, and furnished with two exsertile vesicles.

SPECIFIC CHARACTER.

AND

SYNONYMS.

Pubescent, golden-fulvous, or greyish clouded with blackish: abdomen black at the tip: thighs annulated with yellow.

STAPHYLINUS HYBRIDUS: fulvo-aureo-pubescent nigro nebulosus, abdomine apice nigro, femoribus annulo flavo.
Marsh. Ent. Brit. T. 1. p. 500. 9.

A new species discovered by the Rev. Mr. Kirby in the middle of October, 1799. Since that period it has been found by Dr. Leach and other collectors. It appears to be not very uncommon in some places; and usually occurs in the dung of animals.

PLATE



PLATE DLXIV.

TABANUS NIGER.

BLACK TABANUS,

DIPTERA.

GENERIC CHARACTER.

Mouth with a straight exerted membranaceous proboscis, terminated in two equal lips: sucker projecting, exerted, and placed in a groove on the back of the proboscis, with a single-valved sheath and five bristles: feelers two, equal, clavate, and ending in a point: antennæ short, approximate, cylindrical, with an elevated tooth at the base.

SPECIFIC CHARACTER.

TABANUS NIGER. Black: eyes filky green, with the anterior margin and three bands of purple.



A new and very curious species, lately discovered in Hampshire by G. Montagu, Esq. The figures in the annexed plate will shew the upper and lower surfaces as they appear when magnified. The smaller figure exemplifies the natural size.



LIBRARY
OF THE
UNIVERSITY OF CALIFORNIA

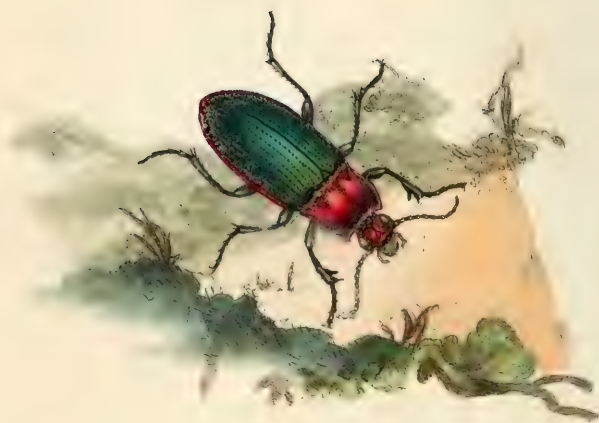


PLATE DLXV.

CARABUS DIMIDIATUS.

KUGELANNIAN CARABUS.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ filiform: feelers six, the exterior joint obtuse and truncated: thorax obcordated, truncated behind, and margined: wing-cases margined: abdomen ovate.

SPECIFIC CHARACTER

AND

SYNONYMS.

Brassy green: head, thorax, and outer margin of the wing-cases generally purple: wing-cases somewhat convex striæ: legs black.

CARABUS DIMIDIATUS: æneo-virens, elytris striatis: interstitiis convexiusculis, pedibus nigris. *Mayh. Ent. Brit. T. 1. p. 445. Sp. 35.*

Oliv. Inf. 111. 35: 72. 94. t. 11. f. 121.

CARABUS KUGELANNII. *Panz. Faun. Germ. 39. t. 8.*

Illiger. Kugel. Kaf. Preuf. 166. 30.

A very scarce insect, and one of the most beautiful of the British Carabi. Its size is moderate, or rather small, somewhat exceeding the length of half an inch, the colours on the superior surface vivid, beneath black with a faint gloss of violet. The antennæ are black

with the base rufous, the legs entirely black. The head and thorax smooth, polished, and glossy, and the wing-cases striated; the interstices deep, and marked with impressed dots in a single series.

The colours in this species are not constant, the head and thorax in some instances being greenish and destitute of the fine purple tinge, so conspicuous in the specimen we have represented.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

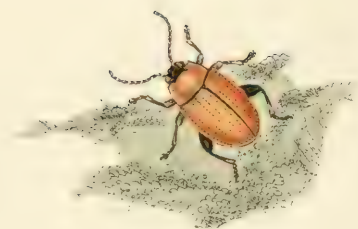


PLATE DLXVI.

CHRYSOMELA ATRICILLA.

BLACK-HEADED CHRYSOMELA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ moniliform: feelers six, growing larger towards the end: thorax marginate: wing-veins immarginate: body oval.

SPECIFIC CHARACTER

AND

SYNONYMS.

Head black: thorax, wing-veins, and flanks testaceous.

CHRYSOMELA ATRICILLA: nigra, thorace elytris tibiisque testaceis, futura nigra. *Marsh. Ent. Brit. T. 1. 200. 74.*
—*Linn. Syst. Nat. 594. 55.*—*Gmel. 1693. 55.*

ALTICA ATRICILLA. *Fab. Syst. Ent. 115. 17.*

GALLERUCA ATRICILLA. *Fab. Ent. Syst. 1. b. 31. 89.*

A small species: the breast, abdomen, and posterior thighs are black.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



PLATE DLXVII.

PAPILIO MALVÆ.

MALLOW, OR GRIZZLED SKIPPER BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clavated at the tip: wings erect when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings indented divaricate, brown waved with cinereous: anterior pair with hyaline dots: posterior with white dots beneath.

PAPILIO MALVÆ: alis dentatis divaricatis fuscis cinereo undatis: anticis punctis fenestratis, posticis subtus punctis albis. *Linn. Syst. Nat.* 2. 795. 267.—*Fn. Su.* 1061.

HESPERIA MALVÆ. *Fabr. Ent. Syst.* 3. 350. 333.—*Syst. Ent.* 535. 396. *Sp. Inf.* 137. 638.

The larva of this Butterfly feeds on the mallow: the colour is greyish or yellowish, with the head black, and a black collar marked with four sulphur-coloured spots. The pupa is somewhat gibbous and blueish.

This

This insect is common in many parts of Britain in the fly state; the larva, though known, by no means common. The Butterfly appears on the wing in May.

Some collectors admit two or more varieties of the Grizzled Skipper Butterfly, while others consider them as so many distinct species: the male also differs a little from the female in being somewhat smaller.

LIBRARY
OF THE
UNIVERSITY OF ALABAMA



PLATE DLXVIII.

PHALÆNA LUBRICIPEDA.

SPOTTED BUFF MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest ; fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings yellowish, with black dots generally in an oblique transverse row.

PHALÆNA LUBRICIPEDA. *Marsh. Linn. Transf. T. 1. p. 71. tab.*
1. *fig.* 2.

BOMBYX LUBRICIPEDA. *Linn. Fn. Sv. 1133. mas.*
Fabr. Syst. Ent. 576. 68.

The larva of this kind is hairy and brownish, with a lateral white stripe : it feeds on herbaceous plants, and is found in August. The fly appears in June.

1



1



2



2



PLATE DLXIX.

FIG. I.

CHRYSOMELA NEMORUM.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ moniliform: feelers six, growing larger towards the end: thorax marginate: body in general oval.

SPECIFIC CHARACTER

AND

SYNONYMS.

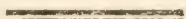
Black: stripe down the middle of the wing-cases, and the legs yellow.

CHRYSOMELA NEMORUM: atra, elytris linea flava, pedibus flavis.
Linn. Syst. Nat. 595. 62.—*Fn. Succ.* 543.—
Gmel. 1695. 62.—*Marsh. Ent. Brit. T.* 1. 197. 65.

ALTICA NEMORUM. *Fabr. Syst. Ent.* 115. 20.—*Panz. Ent. Germ.* 181. 27.

GALLERUCA NEMORUM. *Fabr. Ent. Syst.* 1. b. 34. 104.

L'Altise à bandes jaunes. *Geoff.* 1. 247. 9.



This minute species is extremely common in some situations. The body is of an oblong shape, and the legs formed for leaping.

L 2

FIG.

F I G . I I .

CHRY SOM E L A M O D E E R I .

M O D E E R ' S C H R Y S O M E L A .

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Brassy black: wing-cafes at the tip yellow: four anterior legs, with the fhanks of the pofterior ones yellow.

C H R Y S O M E L A M O D E E R I : ænea nitida, elytris apice flavis pedibus anterioribus tibiisque pofticis luteis. *Linn. Syft. Nat.* 594. 57.—*Fn. Su.* 539.—*Marsh. Ent. Brit. T.* 1. p. 194. 56.

Altica Modeeri. *Panz. Ent. Germ.* 177. 9.

Galleruca Modeeri. *Fabr. Ent. Syft.* 1. b. 80. 85.

Size of the former.

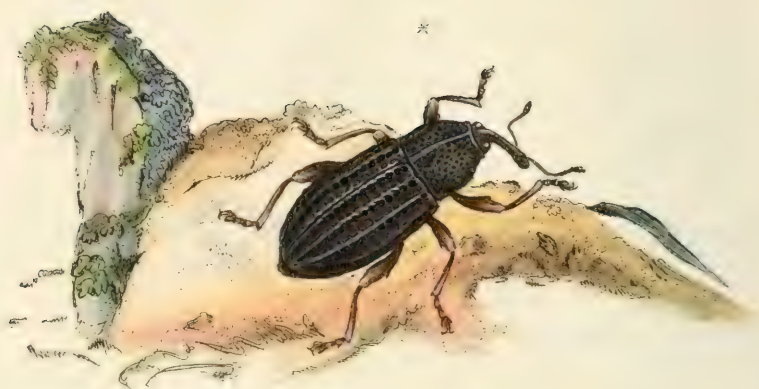


PLATE DLXX.

CURCULIO DIDYMUS.

DOUBLE-SPOTTED CURCULIO, or WEEVIL-BEETLE.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ clavated, and seated on the snout, which is horny and prominent: feelers four, filiform.

SPECIFIC CHARACTER.

CURCULIO DIDYMUS. Cinereous, thorax with a longitudinal dorsal carination: wing-veins with raised striæ, and a series of double or confluent spots between each.



A new species, allied in appearance to *C. carinatus* of Fabricius. It was first discovered by Mr. Rope, who communicated the specimen to the author of *Entomologia Britannica*, T. Marsham, Esq. and since that period the same species has been taken in Coombe Wood. Dr. Leach has a specimen, found in the place last mentioned.

When magnified the appearance of this insect is very remarkable. The general colour is cinereous inclining to blackish: down the middle of the thorax is a distinct longitudinal carinated or raised line; the wing-veins are marked with a few raised longitudinal lines, and the interstices impressed with a series of double punctures or dots, or rather two series of dots placed nearly parallel, and every pair so closely approximating down the middle of the interstices as to appear like a double dot.

PLATE



P L A T E DLXXI.

PHALÆNA PAPYRATIA.

WATER ERMINE-MOTH.

LEPIDOPTERA.

* *Bombyx*.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings snowy white with black dots at the tip: abdomen with five rows of black dots.

BOMBYX PAPYRATIA. *Marsh. Linn. Transf.* 1. p. 72. tab. 1. fig. 4.

Resembles the large or common Ermine Moth, and seems to have been very frequently confounded with that species till its specifical distinction was pointed out by our worthy friend Thomas Marlham, Esq. in a memoir printed in the first volume of the Transactions of the Linneæan Society. It differs principally in having black dots at the tip of the wings only, except one or two reaching in a line towards

* *B. Menthrastri* of Fabricius.

the base: the abdomen fulvous, and the tip white. In *P. Erminea* the black dots on the wings are more numerous.—We must, however, add, that, in some instances, the wings of *Bombyx papyratia* occurs with scarcely any black dots. The female has also, in general, fewer spots than the male.

This species in the larva state feeds on aquatic plants, and, as the trivial name implies, is usually found in watery places in the winged state. The larva is fuscous and hairy; pupa black.

1



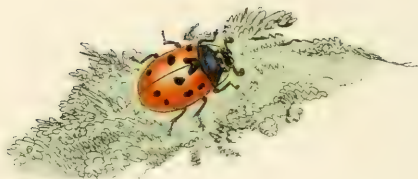
1



2



2



P L A T E D L X X I I .

F I G . I .

COCCINELLA 5-PUNCTATA.

FIVE-DOT RED COCCINELLA, or COW-LADY.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ clavated, the club solid; anterior feelers hatchet-shaped, posterior filiform: thorax and wing-cafes margined: body hemispherical: abdomen flat.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wing-cafes sanguineous with five black dots.

COCCINELLA 5-PUNCTATA: coleoptris sanguineis: punctis nigris quinque. *Linn. Syst. Nat.* 580. 11.—*Fn. Succ.* 474.—*Fabr. Syst. Ent.* 80. 11.—*Sp. Inf.* 1. 96. 17.—*Mant.* 1. 56. 31.—*Ent. Syst.* 1. a 273. 36. *Marsh. Ent. Brit. T.* 1. 151. 5.



The wing-cafes in this species are red, with two black dots on each, and one common black dot at the base. The thorax is black, with the anterior angle white.

F I G. II.

COCCINELLA 11-PUNCTATA.

11-DOT COCCINELLA, or COW-LADY.

SPECIFIC CHARACTER

AND

SYNONYMS.

Red, with eleven black dots.

COCCINELLA 11-PUNCTATA: coleoptris rubris: punctis nigris undecim. *Linn. Syst. Nat.* 581. 15.—*Fn. Succ.* 480.—*Gmel.* 1561. 18.—*Fab. Syst. Ent.* 82. 19.—*Sp. Inf.* 1. 98. 31.—*Mant.* 1. 57. 46.—*Ent. Syst.* 1. a 277. 53.—*Marsh. Ent. Brit. T.* 1. p. 155. 16.

Considered by Paykull as a variety of *Coccinella collaris*.



PLATE DLXXIII.

FIG. I. I.

STAPHYLINUS ANGUSTATUS.

NARROW ROVE-BEETLE.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ moniliform: feelers four: wing-cafes half as long as the body: wings folded up under the cafes: tail not armed with a forceps, furnished with two exfertile veficles.

SPECIFIC CHARACTER

AND

SYNONYMS.

Filiform, black: tip of the wing-cafes and legs testaceous.

STAPHYLINUS ANGUSTATUS: filiformis ater elytris apice pedibusque testaceis. *Paykull. Monogr.* 36. 27.—*Fabr. Ent. Syst. T.* 1. p. 2. p. 523. *Panz. Ent. Germ.* 356. 31.

STAPHYLINUS ANGUSTATUS. *Marsh. Ent. Brit. T.* 527. 83.

A small species.

FIG. II. II.

STAPHYLINUS BIGUTTATUS

BIGUTTATE ROVE-BEETLE.

SPECIFIC CHARACTER

AND

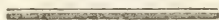
SYNONYMS.

Black: wing-cases with a yellow dot.

STAPHYLINUS BIGUTTATUS: niger, elytris puncto flavo. *Linn. Syst. Nat.* 685. 15.—*Fn. Su.* 851.—*Gmel.* 2029. 15.—*Fab. Ent. Syst.* 1. b. 527. 36.—*Sp. Inf.* 1. 336. 13.—*Marsh. Ent. Brit. T.* 1. p. 526. 81.

STAPHYLINUS JUNO var β . *Paykull Monogr.* 25.

LE STAPHYLIN JUNON. *Geoffr.* 1. 371. 24.



Twice the size of the former.

STAPHYLINUS ELONGATUS.

ELONGATED ROVE-BEETLE.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black: wing-cases behind, with the legs, and antennæ ferruginous.

STAPHYLINUS

STAPHYLINUS ELONGATUS: niger, elytris postice pedibus antennisque ferrugineis. *Linn. Syst. Nat.* 685. 14.—

Marsh. Ent. Brit. T. 1. p. 515. 52.

Paederus elongatus. *Fabr. Syst. Ent.* 268. 2.



Oblong, and glabrous; found in dung.

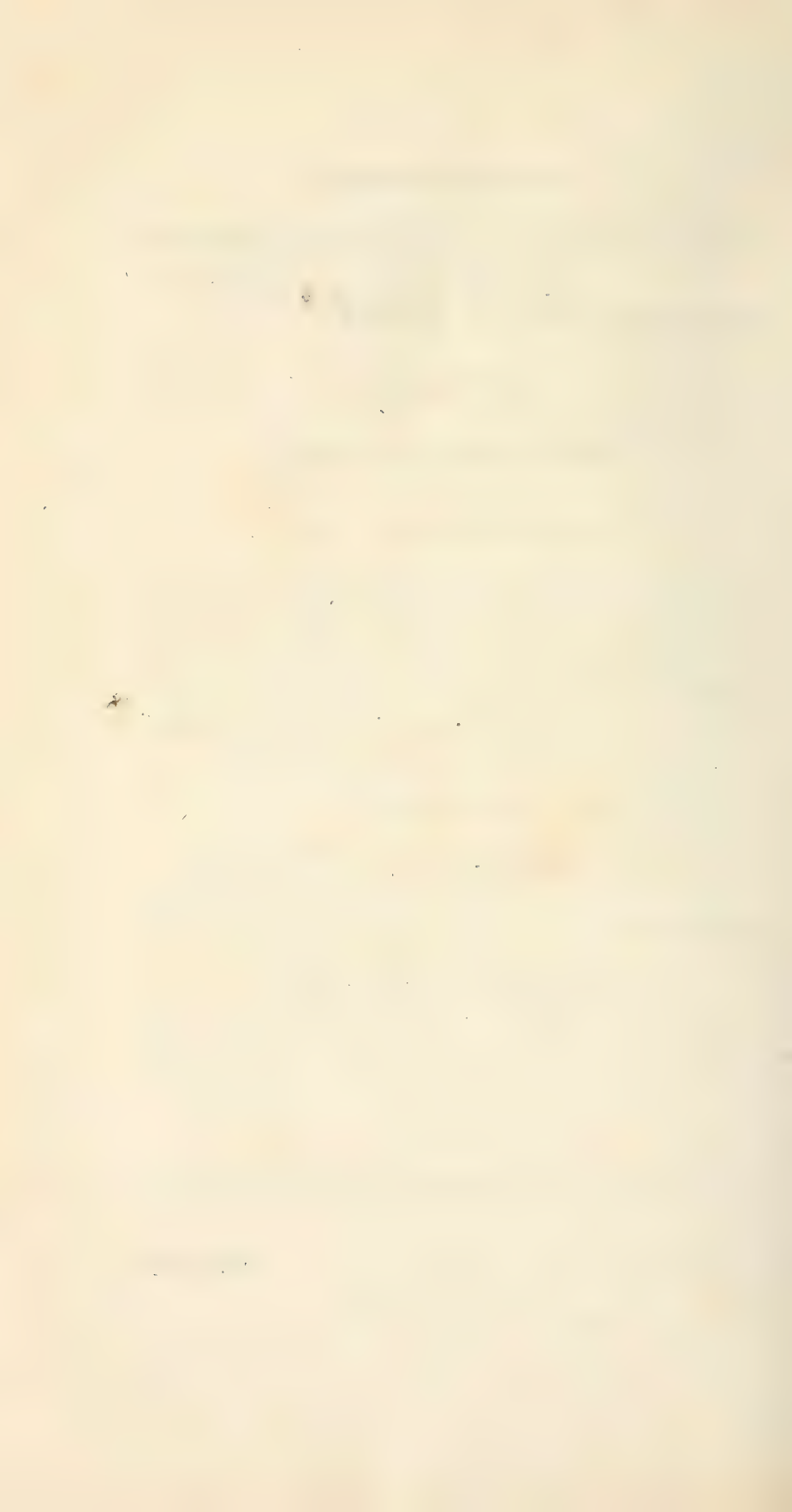




PLATE DLXXIV.

MUSCA TENAX.

DIPTERA.

GENERIC CHARACTER.

Mouth with a soft exerted fleshy proboscis with two equal lips: sucker furnished with bristles: feelers two, very short or none: antennæ usually short.

* *Syrphus*.

SPECIFIC CHARACTER

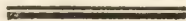
AND

SYNONYMS.

Downy: thorax grey: abdomen brown: hind-shanks compressed and gibbous.

MUSCA TENAX. *Linn. Syst. Nat.* 2. 984. 32.—*Fn. Su.* 1799.

SYRPHUS TENAX: antennis setariis tomentosus thorace griseo, abdomine fusco, tibiis posticis compresso gibbis. *Fabr. Ent. Syst. T.* 4. 288. 36.



Found in dung and putrid substances.

PLATE

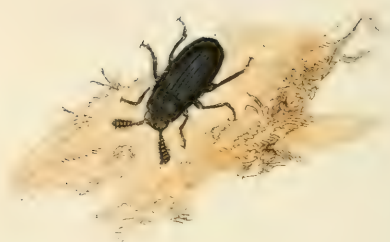


PLATE DLXXV.

HISPA MUTICA.

HAIRY UNARMED HISPA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ cylindrical, approximated at the base, and feated between the eyes: feelers fuciform: thorax and wing-cafes usually spinous or toothed at the tip.

SPECIFIC CHARACTER

AND

SYNONYMS.

Unarmed, black: antennæ hairy: wing-cafes striated.

HISPA MUTICA; inermis, nigra, antennis pilosis, elytris striatis.—
Linn. Syst. Nat. 604. 4.—*Vill.* 1. 170. 3.—
Gmel. 1732. 4.—*Fabr. Syst. Ent.* 71. 6.—*Sp.*
Inf. 1. 83. 9.—*Mant.* 1. 477.—*Marsh. Ent. Brit.*
T. 1. p. 232.

Ptilinus muticus. *Fab. Ent. Syst.* IV. *App.* 443.

Dermestes clavicornis. *Linn. Fn. Su.* 413.

Tenebrio hirticornis. *Degeer.* v. 47. t. 3. f. 1.

A minute species; in its manners said to resemble the *Dermestes* tribe, being like that insect found among fur, leather, clothes, &c. to which it proves injurious. The head is exserted, the thorax angulated; antennæ filiform, and thickest in the middle.



PLATE DLXXVI.

PHALÆNA FASCELINA.

DARK TUSOCK MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest : fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings deflected, cinereous, sprinkled with black points, and traversed by two flexuous fulvous streaks.

PHALÆNA FASCELINA: alis deflexis cinereis: atomis strigisque duabus repandis. *Linn. Syst. Nat.* 2. 825. 55.
Fn. Su. 1119.—*Fabr. Ent. Syst. T.* 3. p. 1. p. 439. 98.



The larva of this Moth is hairy and tufted, the pupa folliculate. The larva is found (chiefly on the oak) in the month of May; the Moth appears in July. A local species, common in some parts of the country, but not frequent near London.



LINNÆAN INDEX

TO

VOL. XVI.

COLEOPTERA.

						Plate	Fig.
Scarabæus vernalis	-	-	-	-	-	547	1.
———— fylvaticus	-	-	-	-	-	547	2.
———— vacca	-	-	-	-	-	561	
Coccinella 4-punctata	-	-	-	-	-	542	
———— 5-punctata	-	-	-	-	-	572	1.
———— 11-punctata	-	-	-	-	-	572	2.
Chrysomela nemorum	-	-	-	-	-	568	1.
———— Modeeri	-	-	-	-	-	568	2.
———— atricilla	-	-	-	-	-	566	
Hispa mutica	-	-	-	-	-	575	
Curculio didymus	-	-	-	-	-	570	
Cerambyx fangvineus	-	-	-	-	-	553	1.
———— minutus	-	-	-	-	-	553	2.
———— litteratus	-	-	-	-	-	546	
Leptura fanguinolenta	-	-	-	-	-	557	
Necydalis cœrulea	-	-	-	-	-	558	
Lampyris festiva	-	-	-	-	-	544	
Elater 4-pustulatus	-	-	-	-	-	545	
Carabus dimidiatus	-	-	-	-	-	565	
———— cupreus	-	-	-	-	-	554	

Staphylinus

INDEX.

					Plate	Fig.
Staphylinus hirtus	-	-	-	-	552	
———— angustatus	-	-	-	-	573	1.
———— biguttatus	-	-	-	-	573	2.
———— elongatus	-	-	-	-	573	3.
———— hybridus	-	-	-	-	563	

HEMIPTERA.

Notonecta maculata	-	-	-	-	560	1.
———— furcata	-	-	-	-	560	2.

LEPIDOPTERA.

Papilio Artaxerxes	-	-	-	-	541	
———— Malvæ	-	-	-	-	567	
Phalæna fascelina	-	-	-	-	576	
———— Phœorrhæus	-	-	-	-	555	
———— lubricipeda	-	-	-	-	563	
———— papyratia	-	-	-	-	571	
———— figma	-	-	-	-	562	
———— margaritaria	-	-	-	-	543	
———— verticalis	-	-	-	-	556	

NEUROPTERA.

Phryganea montana	-	-	-	-	548	1.
———— maculata	-	-	-	-	548	2.
———— interrupta	-	-	-	-	551	

DIPTERA

INDEX.

DIPTERA.

						Plate	Fig.
Tabanus niger	-	-	-	-	-	564	
Oestrus ovis	-	-	-	-	-	550	
Musca tenax	-	-	-	-	-	574	
—— atherix	-	-	-	-	-	549	
—— ephippium	-	-	-	-	-	559	

ALPHABETICAL

ALPHABETICAL INDEX

TO

VOL. XVI.

	Plate	Fig.
Angustatus, Staphylinus; Narrow Rove-Beetle	573	1.
Artaxerxes, Papilio; Artaxerxes Butterfly -	541	
atherix, Musca - - - - -	549	
atricilla, Chrysomela - - - - -	566	
biguttatus, Staphylinus; Biguttate Rove-Beetle	573	2.
cærulea, Necydalis; Blue Necydalis - - -	558	
cupreus, Carabus; Coppery Carabus - -	554	
didymus, Curculio; Double-spot Weevil-Beetle	570	
dimidiatus, Carabus - - - - -	565	
elongatus, Staphylinus; Elongated Rove-Beetle	573	3.
ephippium, Musca - - - - -	559	
fascelina, Phalæna; Dark Tussock Moth -	576	
festiva, Lampyris; Festive Glow-worm -	544	
furcata, Notonecta; Furcate Boat-Beetle -	560	2.
hirtus, Staphylinus; Hairy Staphylinus -	552	
hybridus, Staphylinus; Hybrid Rove-Beetle -	563	
interrupta, Phryganea; Interrupted Phryganea -	551	
litteratus, Cerambyx; Lettered Cerambyx -	546	
lubricipeda, Phalæna; Spotted Buff Moth -	568	
maculata, Notonecta; Spotted Boat-Beetle -	563	
maculata, Phryganea; Spotted Phryganea -	548	2.
malvæ, Papilio, Mallow Butterfly - -	567	
margaritaria, Phalæna; Common Emerald Moth	543	
minutus, Cerambyx - - - - -	553	
VOL. XVI.	O	montana,

INDEX.

	Plate	Fig.
montana, Phryganea, Mountain Phryganea	- 548	1.
Mooderi, Chryfomela; Mooder's Chryfomela	- 569	
mutica, Hispa; Unarmed Hispa	- - - 575	
nemorum, Chryfomela	- - - 569	1.
niger, Tabanus; Black Tabanus	- - - 564	
ovis, Oeftris; Sheep-Bot	- - - 550	
papyratia, Phalæna, Water Ermine Moth	- 571	
phæorrhæus, Phalæna; Brown-tail Moth	- 555	
4-punctata, Coccinella; Four-dot Cow-Lady	542	
4-pustulatus, Elater; Four-spot Springer	- 545	
5-punctata, Coccinella; Five-dot Cow-Lady	- 572	
sanguineus, Cerambyx; Sanguineous Cerambyx	553	
sanguinolenta, Leptura; Red and black Leptura	557	
stigma, Noctua; Square-spot Moth	- - 562	
sylvaticus, Scarabæus; Wood Dor Beetle	- 547	2.
tenax, Musca	- - - - 574	
vacca, Scarabæus; Cow Dor-Beetle	- - 561	
vernalis, Scarabæus; Spring Dor-Beetle	547	1.
verticalis, Pyralis; Mother-of-Pearl Moth	- 556	
11-punctata, Coccinella; Eleven-dot Cow-Lady	574	2.

ALPHABETICAL TABLE

OF

CONTENTS.

VOL. XI. TO VOL. XVI.

	Plate.	Fig.		Plate.	Fig.
A DIPPE, Papilio		448	bifasciata, Cicada		387
Aegeria, Papilio		481	biguttata, Libellula		449
Aenea, Libellula		415	biguttatus, Staphylinus	2.	573
Agricola, Scarabæus		390	1.		478
albidana, Phalæna		377	2.		
angulata, Vespa		495	1. 1.		
angustatus, Staphylinus		573	biliturana, Phalæna		371
Apollo, Papilio		433	2.		
arcuana, Phalæna		364	1.		
arcuata, Musca		424	2.		
arenaria, Ammophila		468	2.		
argiolus, Papilio		481	bimaculana, Phalæna		459
Artaxerxes, Papilio		541	bimaculatus, Hister		525
Asiliformis, Sphinx		384	bimaculatus, Sirex		440
atherix, Musca		549	bimaculatus, Tillus		411
atomarius, Boletaria		538	2.		
atricilla, Chrysomela		566	bipustulata, Cantharis	2.	528
attaminatus, Scarabæus		417	2.		
aucta, Chrysomela		373	bipustulatus, Carabus		516
auricula, Phalæna		397	bipustulatus, Staphylinus		532
3.			biteniatus, Curculio		524
1.			Blancardella, Phalæna		392
			2.		
			Blandina, Papilio		426
			bombycata, Phalæna		386
			1.		
			Boltonii, Libellula		430
			Brassicæ, Papilio		446
			Cæmeterium, Musca		401
			2.		
			Cærulea, Necydalis		558
			campestris, Gryllus		432
			Cancellata, Libellula		472
			Cardui, Curculio		512
			Carolina, Sphinx		361
			Cassina, Phalæna		39
			2.		
			cephalotes		

o 2

CONTENTS.

Plate.	Fig.	Plate.	Fig.
cephalotes, Carabus.....	484	fascelina, Phalæna.....	576
Chi, Phalæna.....	406	fasciata, Cantharis.....	523 1.
cimicoides, Naucoris.....	381	fasciata, Tenthredo.....	398
Cingulata, Musca.....	465	fasciatus, Curculio.....	414 3.
Clavipes, Chalcis.....	373	fasciella, Phalæna.....	452
collaris, Tenthredo.....	441	festiva, Lampyris.....	544
communifasciata, Phalæna ..	456	festiva, Musca.....	511
complanatus, Carabus.....	488	finetarius, Scarabæus.....	404 1.
contristata, Phalæna.....	510	flavipes, Philanthus.....	462
conversaria, Phalæna.....	514	flavipes, Gryllus.....	391
coprinus, Scarabæus.....	401 4.	flavo-frigata, Phalæna.....	392 3.
Coriarius, Cerambyx.....	497	flexuosa, Phalæna.....	412
cornigera, Apis.....	408 1.	floralis, Apis.....	376 5.
costator, Ichneumon.....	478	forcipata, Libellula.....	423
Crabro, Vespa.....	502	fossor, Scarabæus.....	417 3.
Cramerella, Phalæna.....	392	Frischii, Scarabæus.....	390 2.
craboniformis, Sphinx.....	436	Fur, Ptinus.....	422 2.
cratægi, Papilio.....	454	furcata, Notonecta.....	360
crepitans, Carabus.....	486	fusco-undata, Phalæna.....	386 3.
eribaria, Vespa.....	416		
crux-major, Carabus.....	477 2.	geminana, Phalæna.....	370 1.
cuneata, Phalæna.....	487 1.	Geoffroyella, Apis.....	376 3.
eupreus, Elater.....	508	gigantea, Forficula.....	500
cupreus, Carabus.....	554	glabratus, Carabus.....	506
cyaneus, Elater.....	535 1.	globosus, Scarabæus.....	470
cylindricum, Synodendrum ..	368	graminis, Chryfomela.....	365 1.
10-maculata, Vespa.....	376 1.	———— var.....	365 2.
10-notata, Chryfomela.....	373 1.	graminis, Phalæna.....	538
		grammica, Phalæna.....	450
didymus, Curculio.....	570	Greenii, Scarabæus.....	418
dimidiana, Phalæna.....	564 2.	grossificationis, Musca.....	419
dimidiatus, Carabus.....	565		
disjuncta, Apis.....	410	hemipterus, Musca.....	429
domesticus, Gryllus.....	409	Hermanni, Dytiscus.....	501 1.
dorsalis, Leptura.....	395 1.	hirsuta, Musca.....	490
Dromedarius, Sirex.....	483	hirtus, Staphylinus.....	552
Druræi, Sphinx.....	469	hortensis, Scolopendra.....	475
Druriella, Apis.....	399 1.	hottentotta, Musca.....	494
12-pustulatus, Dytiscus.....	496	Hubnerella, Phalæna.....	382 2.
		humator, Silpha.....	537 1.
elongatus, Staphylinus.....	573 3.	hybridus, Staphylinus.....	563
emarginata, Phalæna.....	392 3.	hypochæridis, Chryfomela ..	373 3.
ephippium, Musca.....	559		
exaratus, Curculio.....	414 2.		

inanis,

CONTENTS.

	Plate.	Fig.		Plate.	Fig.
inanis, Musca	490	1.	melanurus, Attelabus	513	
impressus, Elater	535	2.	mellifica, Apis	492	
inermis, Lucanus	400		mendica, Phalæna	383	
inquisitor, Carabus	504	1.	meridiana, Musca	471	2. 2.
inscriptata, Phalæna	517		meridianus, Cerambyx	435	2.
interrupta, Phryganea	551		miata, Phalæna	472	2.
intricatus, Carabus	526		ministrana, Phalæna	380	2.
iricolor, Apis	403	1.	minor, Bombylius	536	
			minutus, Cerambyx	553	
Jacobæa, Apis	408	2.	montana, Phryganea	548	1.
Juvenicus, Sirex	396		mollis, Clerus	411	1.
			Mooderi, Chryfomela	569	
lævigata, Apis	421	2.	mortuorum, Musca	507	
lagopoda, Apis	442		mortuorum, Silpha	537	2.
lamed, Cerambyx	395	2.	multipunctatus, Boletaria	533	1.
lapidaria, Apis	385	1.	murinus, Dermestes	515	
leuconota, Phalæna	453	2.	muscorum, Apis	385	2.
leucorhæus, Ichneumon	476	1.	mutica, Hispa	575	
lineataria, Phalæna	485	1. 2.	myrtacca, Musca	471	1. 1.
lineatus, Curculio	389	2.			
literatus, Cerambux	546		nebulana, Phalæna	364	3.
literata, Phalæna	499	1.	nebulosus, Cerambyx	394	
livida, Aranea	427	1.	nemorum, Chryfomela	569	1.
longipes, Chryfomela	520		niger, Tabanus	564	
lubricipeda, Phalæna	568		nigro-lineatus, Cimex	473	
lunatus, Carabus	530		notana, Phalæna	369	3.
lunatus, Staphylinus	532	1.			
lundana, Phalæna	374	1.	oblongo-guttata, Coccinella	362	1.
			obscurana, Phalæna	374	2.
maculata, Musca	455	1.	ochroftoma, Apis	421	3.
maculata, Notonecta	563		octo-punctata, Bembex	474	
maculata, Phryganea	548	2.	Oleagina, Phalæna	439	
maculatus, Dytiscus	501	2.	omicronta, Phalæna	510	
maderæ, Blatta	457		ovis, Ocfirus	550	
Malvæ, Papilio	567				
manicata, Apis	489		Papyratia, Phalæna	571	
margaritaria, Phalæna	543		pectinataria, Phalæna	479	1.
marginata, Aranea	427	2.	pennipes, Apis	434	
marginatus, Nemotelus	519	2.	perlauforius, Ichneumon	522	
marginatus, Staphylinus	532	2.	petiolata, Conops	451	
maritimus, Curculio	533		Phæorhæus, Phalæna	551	
mediopunctaria, Phalæna	461		Philæus, Papilio	466	
melanocephalus, Carabus	491		picipes, Apis	410	1.
melanocephalus, Cimex	451				

CONTENTS

	Plate.	Fig.		Plate.	Fig.
picatus, Apis	413		rupta, Phalæna	479	2.
pilicornis, Carabus	467	1.	uricola, Scarabæus	378	
pilofellæ, Papilio	405		fanguineus, Elater	508	
Pini, Curculio	529		fanguineus, Cerambyx	553	
pluvialis, Musca	372		fanguinolenta, Leptura	557	
pompiliformis, Larra	420		scalaris, Cerambyx	393	
profanana, Phalæna	377	3.	Scotica, Libellula	523	
Pruni, Papilio	437		semipunctatus, Carabus	367	2.
pulchella, Musca	366		septemnotata, Coccinella	362	3.
punctata, Apis	376	4.	sericea, Musca	445	2.
punctulatus, Dytiscus	540		sericea, Tenthredo	402	
Pyrastræ, Musca	401	1.	sex-cincta, Vespa	455	
quadrata, Vespa	495	2. 2.	sigma, Noctua	562	1.
quadrafasciata, Libellula	425		signata, Apis	421	1.
quadrimaculata, Libellula	407		sinuata, Silpha	539	
quadripunctata, Phalæna	493	3.	sordidus, Scarabæus	404	2.
quadripustulata, Phalæna	463		—————var.	404	3.
quadritrigata, Musca	467	2.	Sphacelatus, Scarabæus	417	2.
4-punctata, Coccinella	542		Sphæcoides, Apis	376	2.
4-pustulatus, Elater	545		spirifex, Spheg	531	
Quercus, Papilio	460		stagnata, Phalæna	363	2.
5-punctata, Coccinella	572		subocellana, Phalæna	380	1.
quinqueguttata, Apis	438		subulatum, Acrydium	521	
Rhediella, Phalæna	377	1.	succincta, Tenthredo	441	2.
Ribescei, Musca	401	3.	fulcirostris, Curculio	509	
Roboraria, Phalæna	527		futor, Cerambyx	455	1.
rostratus, Carabus	504	2.	Sycophanta, Carabus	477	1.
rotundata, Musca	424		sylvaticus, Scarabæus	474	
ruber, Curculio	389	1.	tenax, Musca	574	
Rubi, Papilio	443		testacea, Phalæna	487	1.
rubra, Formica	503		tredecimpunctata, Coccinella	362	2.
rubra, Pyrochroa	383		13-maculata, Coccinella	428	
rubro-viridata, Phalæna	485	3.	trifasciana, Phalæna	370	
rufa, Formica	497		triguttella, Phalæna	382	1.
ruficollis, Elater	518		trimaculana, Phalæna	369	1.
rufipes, Scarabæus	417	4.	tripunctella, Phalæna	382	3.
ruficornis, Chrysomela	365	3.	trinotata, Phalæna	499	
rufipes, Chrysomela	365	4.	trifrigaria, Phalæna	461	2.
rufus, Curculio	389	3.	typicoides, Phalæna	505	
rufus, Gryllus	482		Vacca, Scarabæus	561	
rumigerata, Phalæna	493	2.	V albana, Phalæna	371	1.

variegatis,

CONTENTS.

	Plate.	Fig.		Plate.	Fig.
variegatis, Apis	399	2.	viridis, Tenthredo	444	
vau, Curculio	414	1.	uliginosus, Nemotelus	519	1.
venator, Cimex	375		11-punctata, Coccinella	574	2.
vernalis, Scarabæus	547	1.	24-punctata, Coccinella	362	4. 5.
verticalis, Pyralis	556		urfularia, Phalæna	447	
vesicatoria, Lytta	534				
vestalis, Apis	464		Zebu, Phalæna	397	1.
vibrans, Musca	467				

